

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
10 March 2005 (10.03.2005)

PCT

(10) International Publication Number  
**WO 2005/022581 A2**

(51) International Patent Classification<sup>7</sup>: **H01J 37/00**

[GB/GB]; 6 Hawthorn Drive, Burnage, Manchester M19 1GX (GB). **KRUIT, Pieter** [NL/NL]; Koornmarkt 49, NL-2611 EB Delft (NL).

(21) International Application Number:  
PCT/GB2004/003637

(22) International Filing Date: 25 August 2004 (25.08.2004)

(74) Agent: **KNOTT, Stephen, Gilbert**; Mathisen, Macara & Co., The Coach House, 6-8 Swakeleys Road, Ickenham, Uxbridge UB10 8BZ (GB).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0320187.8 28 August 2003 (28.08.2003) GB

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): **SHIMADZU RESEARCH LABORATORY (EUROPE) LIMITED** [GB/GB]; Wharfside, Trafford Wharf Road, Manchester M17 1GP (GB).

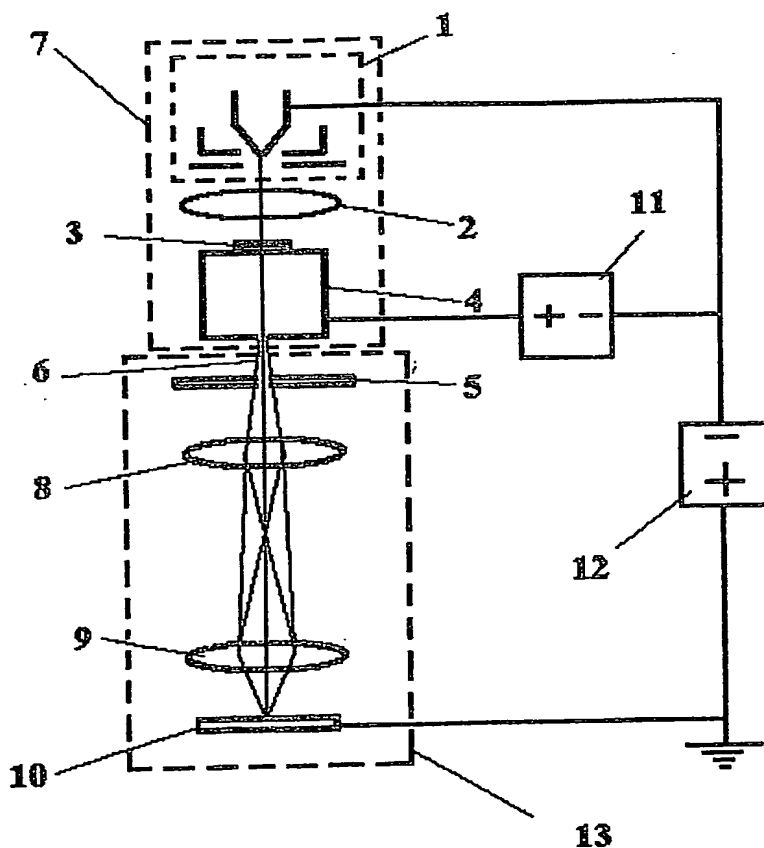
(72) Inventors; and

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH,

(75) Inventors/Applicants (*for US only*): **CUBRIC, Dane**

[Continued on next page]

(54) Title: PARTICLE OPTICAL APPARATUS



(57) Abstract: A particle optical apparatus including an aperture plate for shaping a particle beam before the particle beam enters a monochromator filter assembly. The aperture plate has at least one aperture and is adjustable with respect to the monochromator filter assembly, in normal operating conditions, so that the size of the aperture used to shape the particle beam can be varied, and therefore the beam current entering the filter assembly can be varied.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*